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10/730,405

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John Iler

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EXAMINER

WONG, ALLEN C

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|-----------------------------------|--|
| Office Action Summary | Application No. 10/730,405 | Applicant(s) ILER, JOHN | |
| | Examiner Allen Wong | Art Unit 2621 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 July 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7,9-12 and 15-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-6 is/are allowed.
- 6) ☒ Claim(s) 7,9-12 and 15-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/24/09 has been entered.

Response to Arguments

2. Applicant's arguments filed 7/24/09 have been fully read and considered but they are not persuasive.

Regarding last three lines on page 5 of applicant's remarks about claim 7, applicant asserts that the combination of Yoshimura and Hata do not teach "wherein said encoding context indicates a probability for a plurality of possible symbols". The examiner respectfully disagrees. Yoshimura does not specifically disclose wherein the coding context is indicates a probability for a plurality of possible symbols. However, in column 14, lines 55-62, Hata discloses the use of a symbol generation probability model for generating the probability of possible symbols for representing the elements of the coded image data. In column 15, lines 7-15, Hata discloses that the better the symbol matches the generation probability model of the symbol, less code bits are necessary to encode the symbol string. Thus, Hata teaches the coding context is indicates the probability for a plurality of possible symbols. Therefore, it would have been obvious to

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one of ordinary skill in the art to combine Hata's teachings into Yoshimura's invention for efficiently encoding video data so as to permit efficient decoding and displaying of image data at the output, as suggested in Hata's column 15, lines 8-12.

The examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

The combination of well known elements of Yoshimura and Hata together yield the predictable result of efficiently encoding video data so as to permit efficient decoding and displaying of image data at the output.

Regarding lines 10-11 on page 6 of applicant's remarks, applicant states that Hata does not teach or disclose an encoder. The examiner respectfully disagrees. It is inherent or extremely obvious to one of ordinary skill in the art to have a corresponding encoder to accompany the decoder in Hata as one of ordinary skill in the art knows that the decoder would be useless if there is no encoded data to decode. The purpose of the decoder is to decode encoded data encoded from the encoder side. Thus, Hata must have or it is obvious for Hata to have a corresponding encoder to go along with the decoder, since decoders are useless if there is no corresponding encoder to generate encoded data so as to permit the decoder to decode the generated encoded data.

Dependent claims 9-12 and 15-19 are rejected for at least similar reasons as claim 7 and in the rejection below. Claims 1-6 are allowed.

Thus, the rejection is maintained.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 7, 9-12 and 15-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshimura (7,061,936) in view of Hata (6,404,932).

Regarding claim 7, Yoshimura discloses a method of processing a stream of data, comprising:

receiving a stream of data, the stream of data comprising a plurality of symbols to be processed at a circuit (fig.1, element 3b receives a stream of data, that is encoded, wherein the stream of data is to be viewed at element 2, see col.8, ln.49-53);

contemporaneously processing a first subset of the symbols to identify a second subset of the symbols, where each symbol in the second subset uses a common encoding context (fig.3, the data from a stream of video data is received, wherein the stream of video data comprises a plurality of group of frames (GOPs), a group of frames comprises a plurality of individual frames, ie. I, P and B frames, where the frames (I, P and B) are encoded with subsets of encoded symbols, wherein fig.3 and 10, the use of binary code is the common context used to process the encoded symbols, see col.12, ln.13-25);

evaluating at least one symbol from the second subset of symbols to determine the common coding context (fig.3, note the a1, b1 are the "IMPORTANT PACKET" data, and the "OTHER PACKET EXCLUDING IMPORTANT PACKET" data, in that fig.3 and 10, the use of binary code is the common context used to process the encoded symbols, see col.12, ln.18-21); and

using the common coding context to process the second subset of symbols (fig.3 and 10, the use of binary code is the common context used to process the encoded symbols).

Yoshimura does not specifically disclose wherein the coding context is indicates a probability of possible symbols. However, Hata teaches the coding context is indicates the probability of possible symbols (col.14, ln.55-62, Hata discloses the use

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of a symbol generation probability model for generating the probability of possible symbols for representing the elements of the coded image data, col.15, ln.7-15, Hata discloses that the better the symbol matches the generation probability model of the symbol, less code bits are necessary to encode the symbol string). Therefore, it would have been obvious to one of ordinary skill in the art to combine Hata's teachings into Yoshimura's invention for efficiently encoding video data so as to permit efficient decoding and displaying of image data at the output (Hata's col.15, ln.8-12).

Regarding claim 9, Yoshimura discloses the data stream includes encoded video data (fig.3, note video frames A, B and C are encoded, in that the data from a stream of video data is received, wherein the stream of video data comprises a plurality of frames, a group of frames comprises a plurality of frames, where the frames are encoded with subsets of encoded symbols).

Regarding claim 10, Yoshimura discloses the encoded symbols represent elements of the encoded video data (fig.3, note video frames A, B and C are encoded, in that the data from a stream of video data is received, wherein the stream of video data comprises a plurality of frames, a group of frames comprises a plurality of frames, where the frames are encoded with subsets of encoded symbols).

Regarding claims 11-12, Yoshimura discloses H.264 and MPEG-4 part 10 standard encoding scheme (col.11, ln.37, MPEG-4 is also known as H.264).

Regarding claim 15, Yoshimura does not specifically disclose the coding context indicates a most probable symbol. However, Hata teaches the coding context indicates a most probable symbol (figs.23-26 and col.19, ln.47 to col.20, ln.24, Hata

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discloses the assignment of an index value according to the state of each pixel, wherein for instance, index 0 has a 0.9 or 90% chance to be assigned under symbol 0 and 0.1 or 10% chance to be assigned under symbol 1, thus, for index 0, symbol 0 is the most probable symbol). Therefore, it would have been obvious to one of ordinary skill in the art to combine Hata's teachings into Yoshimura's invention for efficiently encoding video data so as to permit efficient decoding and displaying of image data at the output (Hata's col.15, ln.8-12).

Regarding claim 16, Yoshimura does not specifically disclose the coding context indicates a less probable symbol. However, Hata teaches the coding context indicates a less probable symbol (figs.23-26 and col.19, ln.47 to col.20, ln.24, Hata discloses the assignment of an index value according to the state of each pixel, wherein for example, index 0 has a 0.9 or 90% chance to be assigned under symbol 0 and 0.1 or 10% chance to be assigned under symbol 1, thus, for index 0, symbol 1 is the less probable symbol). Therefore, it would have been obvious to one of ordinary skill in the art to combine Hata's teachings into Yoshimura's invention for efficiently encoding video data so as to permit efficient decoding and displaying of image data at the output (Hata's col.15, ln.8-12).

Regarding claim 17, Yoshimura does not specifically disclose further comprising determining a probability for the most likely symbol; and determining a probability for the less likely symbol. However, Hata teaches the coding context is indicates the probability of possible symbols (col.14, ln.55-62, Hata discloses the use of a symbol generation probability model for generating the probability of possible symbols for

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representing the elements of the coded image data, col.15, ln.7-15, Hata discloses that the better the symbol matches the generation probability model of the symbol, less code bits are necessary to encode the symbol string), wherein possible symbols include most probable symbols and less likely symbols (figs.23-26 and col.19, ln.47 to col.20, ln.24, Hata discloses the assignment of an index value according to the state of each pixel, wherein for instance, index 0 has a 0.9 or 90% chance to be assigned under symbol 0 and 0.1 or 10% chance to be assigned under symbol 1, thus, for index 0, symbol 0 is the most probable symbol, and for index 0, symbol 1 is the less probable symbol). Therefore, it would have been obvious to one of ordinary skill in the art to combine Hata's teachings into Yoshimura's invention for efficiently encoding video data so as to permit efficient decoding and displaying of image data at the output (Hata's col.15, ln.8-12).

Regarding claim 18, Yoshimura does not specifically disclose establishing a boundary value based on the probability for the most likely symbol and the less likely symbol. However, Hata teaches establishing the boundary value based on the probability for the most likely symbol and the less likely symbol (figs.23-26 and col.19, ln.47 to col.20, ln.24, Hata discloses the assignment of an index value according to the state of each pixel, wherein for instance, index 0 has a 0.9 or 90% chance to be assigned under symbol 0 and 0.1 or 10% chance to be assigned under symbol 1, thus, for index 0, symbol 0 is the most probable symbol, and for index 0, symbol 1 is the less probable symbol, wherein the establishment of the "most likely symbol" and the "least likely symbol" are considered to be boundary values, thus, the boundary value is

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established). Therefore, it would have been obvious to one of ordinary skill in the art to combine Hata's teachings into Yoshimura's invention for efficiently encoding video data so as to permit efficient decoding and displaying of image data at the output (Hata's col.15, ln.8-12).

Regarding claim 19, Yoshimura discloses calculating a code value from the stream of data (col.8, ln.49-53, fig.1, element 3b receives a stream of data, that is encoded, wherein the stream of data is to be viewed at element 2, thus, coded values are already calculated from the stream of data by using the use of binary code, ie. common context, for processing the encoded symbols, see col.12, ln.13-25).

Yoshimura does not disclose determining whether to select the most likely symbol or the less likely symbol based on a comparison of the code value with the boundary value. However, Hata teaches determination of selection between the most likely symbol and the less likely symbol after comparison of the code value with the boundary value (figs.23-26 and col.19, ln.47 to col.20, ln.24, Hata discloses the assignment of an index value according to the state of each pixel, wherein for instance, index 0 has a 0.9 or 90% chance to be assigned under symbol 0 and 0.1 or 10% chance to be assigned under symbol 1, thus, for index 0, symbol 0 is the most probable symbol, and for index 0, symbol 1 is the less probable symbol, thus, the most likely or least likely symbol is selected or assigned based on the comparison or evaluation of the values to the established boundary value). Therefore, it would have been obvious to one of ordinary skill in the art to combine Hata's teachings into Yoshimura's invention for efficiently

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encoding video data so as to permit efficient decoding and displaying of image data at the output (Hata's col.15, ln.8-12).

Allowable Subject Matter

3. Claims 1-6 are allowed.
4. The following is a statement of reasons for the indication of allowable subject matter: The prior art does not specifically disclose the combination of limitations of claim 1: a method of processing a stream of data, comprising: receiving a stream of data, the stream of data included a plurality of encoded symbols at a circuit; contemporaneously processing a first subset of the encoded symbols to identify a second subset of the encoded symbols, wherein each symbol in the second subset of the encoded symbols are encoded based on a common probability of occurrence of symbols in a symbol set, and wherein encoded symbols in the first subset that are not in the second subset are not encoded based on the common probability of occurrence of symbols in the symbol set; evaluating at least one symbol from the second subset of encoded symbols to determine the common probability of occurrence of symbols in the symbols set after contemporaneously processing the first subset; and using the common probability of occurrence of symbol in the symbol set to process the second subset of encoded symbols.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen Wong whose telephone number is (571) 272-7341.

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The examiner can normally be reached on Mondays to Thursdays from 8am-6pm
Flextime.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Allen Wong
Primary Examiner
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8/28/09